

Appl. No.: 10/675,937

Amdt. dated 03/16/2006

Reply to Office action of November 16, 2005

Amendments to the Claims:

1. (Currently Amended) A cigarette comprising a tobacco rod and a filter element connected to the tobacco rod, said filter element having an end proximal to the tobacco rod and an end distal from the tobacco rod, wherein said filter element comprises:

a first longitudinally extending section of filter material positioned at the end of the filter element proximal to the tobacco rod;

a second longitudinally extending section of filter material positioned at the end of the filter element distal from the tobacco rod and spaced apart from said first section of filter material, the two sections of filter material defining a compartment therebetween, wherein said first section of filter material has a greater particulate removal efficiency than said second section of filter material;

a semi-permeable barrier dividing said compartment into a first region and a second region;

an adsorbent material contained within said first region of said compartment; and  
an ion exchange resin contained within said second region of said compartment.

2. (Original) The cigarette of Claim 1, wherein said first region of said compartment is adjacent to said first section of filter material and said second region of said compartment is adjacent to said second section of filter material).

3. (Original) The cigarette of Claim 1, wherein said first region of said compartment is adjacent to said second section of filter material and said second region of said compartment is adjacent to said first section of filter material.

4. (Original) The cigarette of Claim 1, wherein said ion exchange resin is in granular form.

5. (Original) The cigarette of Claim 1, wherein said ion exchange resin is a strong base anion exchange resin or a weak base anion exchange resin.

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6. (Original) The cigarette of Claim 1, wherein said first section of filter material and said second section of filter material are each independently selected from the group consisting of cellulose acetate tow, gathered cellulose acetate web, polypropylene tow, gathered polypropylene web, gathered polyester web, gathered paper, and strands of reconstituted tobacco.

7. (Original) The cigarette of Claim 1, wherein said first section of filter material and said second section of filter material comprise plasticized cellulose acetate tow.

8. (Original) The cigarette of Claim 1, wherein the overall length of the filter element is about 15 to about 65 mm.

9. (Original) The cigarette of Claim 8, wherein the overall length of the filter element is about 25 to about 50 mm.

10. (Original) The cigarette of Claim 1, wherein the length of each of the first and second sections of filter material is about 5 to about 25 mm.

11. (Original) The cigarette of Claim 10, wherein the length of each of the first and second sections of filter material is about 5 to about 15 mm.

12. (Original) The cigarette of Claim 1, wherein the adsorbent-containing region and the ion exchange resin-containing region each has a length of about 5 to about 20 mm.

13. (Original) The cigarette of Claim 12, wherein the adsorbent-containing region and the ion exchange resin-containing region each has a length of about 5 to about 10 mm.

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14. (Original) The cigarette of Claim 1, wherein the length of said semi-permeable barrier is about 0.1 to about 10 mm.

15. (Original) The cigarette of Claim 14, wherein the length of said semi-permeable barrier is about 0.5 to about 5 mm.

16. (Original) The cigarette of Claim 1, wherein said adsorbent is selected from the group consisting of activated carbon, molecular sieves, clays, activated aluminas, silica gels, and mixtures thereof.

17. (Original) The cigarette of Claim 1, wherein said adsorbent is activated carbon.

18. (Original) The cigarette of Claim 17, wherein the activated carbon has an activity of about 60 to about 150 Carbon Tetrachloride Activity.

19. (Original) The cigarette of Claim 1, wherein said adsorbent is in granular form.

20. (Original) The cigarette of Claim 19, wherein said adsorbent has a particle size of about 8x16 mesh to about 30x70 mesh.

21. (Original) The cigarette of Claim 1, wherein said semi-permeable barrier is selected from the group consisting of paper, cellulose acetate tow, gathered cellulose acetate web, polypropylene tow, gathered polypropylene web, and gathered polyester web.

22. (Currently Amended) A cigarette comprising a tobacco rod and a filter element connected to the tobacco rod, said filter element having an end proximal to the tobacco rod and an end distal from the tobacco rod, wherein said filter element comprises:

a first longitudinally extending section of filter material positioned at the end of the filter element proximal to the tobacco rod;

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a second longitudinally extending section of filter material positioned at the end of the filter element distal from the tobacco rod and spaced apart from said first section of filter material, the two sections of filter material defining a compartment therebetween, wherein said first section of filter material has a greater particulate removal efficiency than said second section of filter material;

an adsorbent material contained within said at least a portion of said compartment; and

an ion exchange resin dispersed within one or both of said first and second sections of filter material.

23. (New) The cigarette of Claim 22, wherein said first section of filter material and said second section of filter material comprise a fibrous filter material, and said first section of filter material comprises filaments having a lower weight per unit length than the filaments of said second section of filter material.

24. (New) The cigarette of Claim 23, wherein said first section of filter material comprises filaments having a weight per unit length of less than about 2.5 denier per filament and said second section of filter material comprises filaments having a weight per unit length of greater than about 3.0 denier per filament.

25. (New) The cigarette of Claim 24, wherein said first section of filter material comprises filaments having a weight per unit length of about 1.8 to about 2.5 denier per filament and said second section of filter material comprises filaments having a weight per unit length of about 3.0 to about 10 denier per filament.

26. (New) The cigarette of Claim 1, wherein said first section of filter material and said second section of filter material comprise a fibrous filter material, and said first section of filter material comprises filaments having a lower weight per unit length than the filaments of said second section of filter material.

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27. (New) The cigarette of Claim 26, wherein said first section of filter material comprises filaments having a weight per unit length of less than about 2.5 denier per filament and said second section of filter material comprises filaments having a weight per unit length of greater than about 3.0 denier per filament.

28. (New) The cigarette of Claim 27, wherein said first section of filter material comprises filaments having a weight per unit length of about 1.8 to about 2.5 denier per filament and said second section of filter material comprises filaments having a weight per unit length of about 3.0 to about 10 denier per filament.

29. (New) A cigarette comprising a tobacco rod and a filter element connected to the tobacco rod, said filter element having an end proximal to the tobacco rod and an end distal from the tobacco rod, wherein said filter element comprises:

a first longitudinally extending section of filter material positioned at the end of the filter element proximal to the tobacco rod;

a second longitudinally extending section of filter material positioned at the end of the filter element distal from the tobacco rod and spaced apart from said first section of filter material, the two sections of filter material defining a compartment therebetween, wherein said first section of filter material has a greater particulate removal efficiency than said second section of filter material; and

an adsorbent material and an ion exchange resin contained within said compartment.

30. (New) The cigarette of Claim 29, wherein said first section of filter material and said second section of filter material comprise a fibrous filter material, and said first section of filter material comprises filaments having a lower weight per unit length than the filaments of said second section of filter material.

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31. (New) The cigarette of Claim 30, wherein said first section of filter material comprises filaments having a weight per unit length of less than about 2.5 denier per filament and said second section of filter material comprises filaments having a weight per unit length of greater than about 3.0 denier per filament.

32. (New) The cigarette of Claim 31, wherein said first section of filter material comprises filaments having a weight per unit length of about 1.8 to about 2.5 denier per filament and said second section of filter material comprises filaments having a weight per unit length of about 3.0 to about 10 denier per filament.

33. (New) The cigarette of Claim 29, wherein said ion exchange resin and said adsorbent material are in granular form.

34. (New) The cigarette of Claim 29, wherein said ion exchange resin is a strong base anion exchange resin or a weak base anion exchange resin.

35. (New) The cigarette of Claim 29, wherein said first section of filter material and said second section of filter material comprise plasticized cellulose acetate tow.

36. (New) The cigarette of Claim 29, wherein said adsorbent is selected from the group consisting of activated carbon, molecular sieves, clays, activated aluminas, silica gels, and mixtures thereof.

37. (New) The cigarette of Claim 36, wherein said adsorbent is activated carbon.